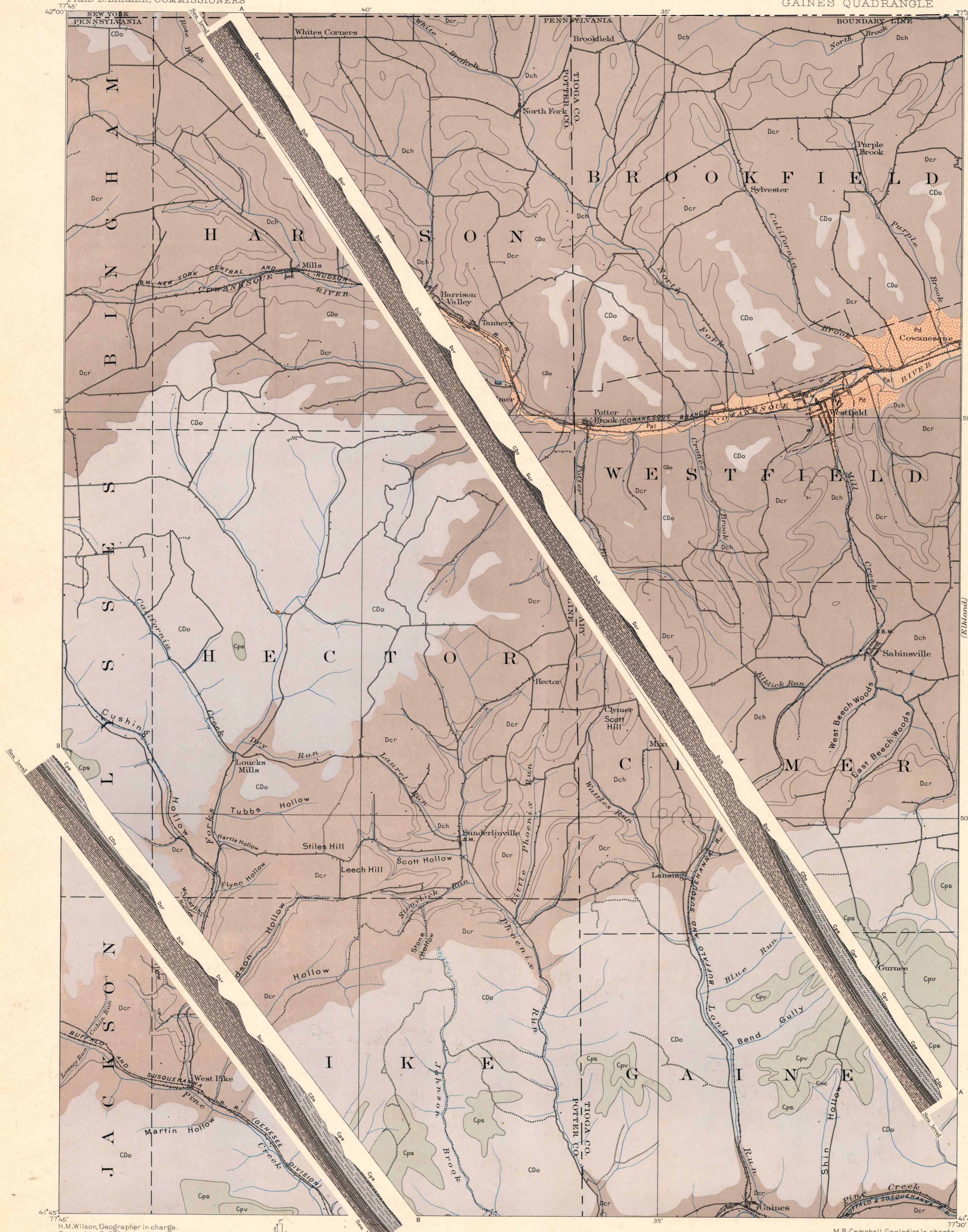


U.S.GEOLOGICAL SURVEY
CHARLES D.WALCOTT, DIRECTOR

STATE OF PENNSYLVANIA
GEORGE W.MC NEES, SIMON HARROLD,
FRED D.BARKER, COMMISSIONERS

STRUCTURE SECTIONS

PENNSYLVANIA-NEW YORK
GAINES QUADRANGLE



LEGEND

SURFICIAL ROCKS

Sheet Symbol	Section Symbol
Pal	
Valley alluvium (gravel, sand, and silt in the larger valleys)	

PLEISTOCENE

SEDIMENTARY ROCKS

Sheet Symbol	Section Symbol
Cpv	Cpv

Pottsville formation
eastern edge of
Sharon conglomerate
(buff sandstone and
gray to black shale)

Cps	Cps
-----	-----

Sharon
conglomerate
member of
Pottsville formation
(white quartz conglomerate
at the base of the formation)

Cmc	
-----	--

Manch Chunk
shale
(red shale)

CDo	CDo
-----	-----

Oswayo formation
(green sandstone and shale)

Dcr	Dcr
-----	-----

Cattaraugus
formation
(red shale and sandstone)

Dch	Dch
-----	-----

Chemung
formation
(buff and gray shale,
sandstone, and impure
limestones)

CARBONIFEROUS

UNCONFORMITY

DEVONIAN

M.R.Campbell, Geologist in charge.
Geology by M.L.Fuller, J.D.Irving,
and Charles Butts.
Surveyed in 1903.

H.M.Wilson, Geographer in charge.
Control by S.S.Gannett, Oscar Jones, and J.H.Wheat.
Topography by J.H.Jennings and J.W.Thom.
Surveyed in 1899 in cooperation with the
State of Pennsylvania.

APPROXIMATE MEAN
DECLINATION 1902.

Scale 1:250,000

1 2 0 1 2 3 4 Miles

1 2 0 1 2 3 4 Kilometers

Scale 1:250,000

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